

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior listings of claims presented in the application.

Claim 1 (currently amended): A vacuum control system comprising:
a controller for controlling the rotatory power of a DC brushless motor, continuously controlling displacement of a vacuum pump, and thus keeping the degree of vacuum in a vacuum vessel constant, by decompressing the inside of the vacuum vessel using an exhaust vacuum pump which operates with the DC brushless motor, monitoring the inside pressure of a [[the]] vacuum vessel using a pressure sensor, and controlling a voltage applied to the DC brushless motor on the basis of an output signal resulting from measurement of the inside pressure of the vacuum vessel by the pressure sensor to control the displacement of an exhaust vacuum pump;
and
an air introduction device inserted in a vacuum exhaust path connecting the vacuum vessel to the exhaust vacuum pump for continuously introducing a controlled amount of air into the vacuum exhaust path, wherein
the controller is operable to hold the degree of vacuum in the vacuum vessel constant.

Claim 2 (canceled).

Claim 3 (currently amended): A constant circulation resistance tube which is formed by coaxially inserting a resistance adjusting rod into a hollow capillary and which can control a

flow rate of gas circulating between an ~~[[the]]~~ inner circumference of the hollow capillary and an ~~[[the]]~~ outer circumference of the resistance adjusting rod by adjusting a circulation resistance of the gas, wherein the circulation resistance can be adjusted by varying an insertion length of the resistance adjusting rod inserted into the hollow capillary and can be fixed by fitting a separation preventing short tube to an outer circumference of the hollow capillary at an opening end.

Claim 4 (currently amended): The vacuum control system according to claim 1 ~~[[2]]~~, wherein the air introduction device comprises a constant circulation resistance tube which is formed by coaxially inserting a resistance adjusting rod into a hollow capillary and which can control a flow rate of gas circulating between an inner circumference of the hollow capillary and an outer circumference of the resistance adjusting rod by adjusting a circulation resistance of the gas, wherein the circulation resistance can be adjusted by varying an insertion length of the resistance adjusting rod inserted into the hollow capillary and can be fixed by fitting a separation preventing short tube to an outer circumference of the hollow capillary at an opening end ~~constant circulation resistance tube according to claim 3 is used as the air introduction means.~~

Claim 5 (original): A vacuum degassing apparatus for removing dissolved gas from liquid isolated with a gas permeation diaphragm by reducing the inside pressure of a vacuum vessel including the gas permeation diaphragm with an exhaust vacuum pump, the vacuum degassing apparatus employing the vacuum control system according to claim 1.

Claim 6 (canceled).

Claim 7 (currently amended): [A] The vacuum degassing apparatus for removing dissolved gas from liquid isolated with a gas permeation diaphragm by reducing the inside pressure of a vacuum vessel including the gas permeation diaphragm with an exhaust vacuum pump, the vacuum degassing apparatus employing the vacuum control system according to claim 5 [[4]], wherein the air introduction device comprises a constant circulation resistance tube which is formed by coaxially inserting a resistance adjusting rod into a hollow capillary and which can control a flow rate of gas circulating between an inner circumference of the hollow capillary and an outer circumference of the resistance adjusting rod by adjusting a circulation resistance of the gas, wherein the circulation resistance can be adjusted by varying an insertion length of the resistance adjusting rod inserted into the hollow capillary and can be fixed by fitting a separation preventing short tube to an outer circumference of the hollow capillary at an opening end.